DELAWARE DEPARTMENT OF TRANSPORTATION

**** ADDENDUM 1 – June 26, 2019 ****
Proposals Due by Thursday, July 11, 2019.

IMPROVEMENTS TO DELAWARE'S CRASH DATA REPORTING AND ANALYSIS PROGRAM

RFI - 1918

RESPONSES DUE DATE/TIME: ~~**June 27, 2019 2:00 p.m. (local time)**~~
July 11, 2019 2:00 p.m. (local time)

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1. OVERVIEW AND AUTHORITY

1.1 Purpose

Since 2009, the Delaware Department of Transportation (DelDOT) has employed a spatially-based online crash data application (CARS) to display locations, attributes, and reports of historical crashes via numerous built-in mapping, search, and query tools. The results obtained through the application by its users allow the Department to make more educated and cost-efficient decisions on engineering projects in an effort to promote safety on Delaware's roadways.

More recently, DelDOT has been working toward redefining and revising the methodologies used to determine locations that may benefit most from safety countermeasure implementations. While the need to geospatially display historical crash data in a timely and accurate manner remains a top priority for DelDOT, the demand for a more robust and user-friendly analysis portion of the application continues to increase.

DelDOT desires a geospatially-based online application to improve and expand upon its crash data reporting and analysis capabilities. The application will utilize DelDOT's latest crash database software and integrate the extensive amount of data collected by multiple state agencies within Delaware. Constant coordination with these agencies will be required for the successful interfacing of the data into the application.

1.2 Intent of this Request for Information

The intent of this RFI is for DelDOT to obtain information regarding crash data mapping and analysis capabilities from vendors who have prior experience in developing and implementing applications using the most current software technologies. The information obtained through this RFI may be used to select the technology, develop system requirements, and/or create a Request for Proposals (RFP) for the purchasing or licensing of an online crash data application, made available to internal users and the general public as determined by the Department. DelDOT is not obligated to issue or award any contract subsequent to issuance of this RFI nor any RFP request that may result from this RFI.

1.3 Cost

Vendors shall be responsible for any cost incurred in connection with responding to this RFI, and any subsequent RFP request. Vendors shall fully bear the costs associated with pre-contract activities, including submissions, proposal preparation, demonstrations, and/or communications.

1.4 Inquiries and Communication

Should the vendor have any questions as to the intent or meaning of any part of this RFI, they should contact DelDOT. Questions and answers will be addressed individually. All inquiries concerning this RFI must be submitted via e-mail to: DOT.profservices@delaware.gov.

Please do not contact any other DelDOT section regarding this RFI.

1.5 RFI Schedule

Action Item	Date	Time
Deadline for Questions to ensure response:	Ten (10) business days prior to the RFI Response due date	2:00 P.M. Local Time
Answers to Questions posted by:	Seven (7) business days prior to the RFI Response due date	2:00 P.M. Local Time
RFI Response Due by:*	~~**Thursday, June 27, 2019**~~ **Thursday, July 11, 2019**	2:00 P.M. Local Time

1.6 Confidentiality and Delaware Freedom of Information Act

This project is subject to DelDOT's Freedom of Information Act (FOIA).

To determine what information may be considered proprietary or confidential and may be redacted from their submission, firms should review Delaware's Freedom of Information Regulations here; http://regulations.delaware.gov/AdminCode/title8/1400.shtml#TopOfPage. Under Delaware FOIA law, 29 Del. C, §10002(l)(2), "Trade secrets and commercial or financial information…which is of a privileged or confidential nature" are "records that shall not be deemed public" and are therefore exempt from disclosure under FOIA.

In order to comply with the State of Delaware's Freedom of Information Act, firms responding to this Request for Information **shall prepare and submit one (1) electronic copy** (e.g. CD, flash drive) of their response with any proprietary or confidential information redacted. This copy should be clearly marked as "Redacted Copy" and submitted along with the other copies. **This electronic copy is required even if the submission contains no proprietary or confidential information**.

Vendors shall specifically designate those portions of their submissions, which they believe to be proprietary and, therefore, or otherwise, privileged under the DelDOT FOIA. DelDOT shall act accordingly and endeavor to maintain the confidentiality of those portions of vendor submissions marked "Confidential" in accordance with the FOIA regulations.

To protect the competitiveness of this project and encourage responses to this RFI, any RFI responses requested through the FOIA will not be released until after the RFI and subsequent RFP (if any) process has ended and a contract for the project has been awarded and an agreement is binding.

1.7 Right to Amend

DelDOT reserves the right to amend or supplement this RFI by way of an issued addendum.

1.8 Liability for Errors

While DelDOT has used considerable efforts to ensure an accurate representation of information in this RFI, the information contained in this RFI is supplied solely as a guideline for vendors.

The information is not guaranteed or warranted to be accurate by DelDOT nor is it necessarily comprehensive or exhaustive.

Vendors acknowledge and understand that it is their responsibility to obtain clarifications concerning this RFI if needed.

Nothing in this RFI is intended to relieve vendors from forming their own opinions and conclusions with respect to the matters addressed in this RFI.

1.9 Use of this RFI

This RFI document, or any portion thereof, may not be reproduced or used for any purpose other than the preparation of a response by the vendor.

1.10 Submission

RFI responses must be received in accordance with the RFI Schedule to guarantee consideration. Email responses should be sent to:

DOT.profservices@delaware.gov

CD's or flash drives should be sent to:

Contract Administration – RFI 1918
Delaware Department of Transportation
800 Bay Road
Dover, DE 19901

1.11 Submission Format

One (1) original (marked as such) should be submitted along with one (1) redacted response, in PDF format, by email or on a CD or flash drive.

1.12 Oral Interviews, Presentation, and / or Demonstration

During the review of RFI submissions, DelDOT may request further information from vendors for clarification and/or demonstration of technology included in the RFI submission. Notification of any request for clarification, demonstration, or further communications will be made by email.

In accordance with Section 1.3 Cost, vendors shall be responsible for all costs associated with this RFI, subsequent RFP, and any demonstrations or meetings that may be requested by DelDOT during this process. Vendors may participate in demonstrations or meetings in person or via conference calls/webinars.

1.13 Completeness

Although DelDOT prefers that RFI responses are as complete and comprehensive as possible, the vendor may provide partial responses if all the information requested in this RFI cannot be reasonably provided. The vendor may provide additional information regarding the functionality of their Commercial Off-the-Shelf (COTS), Modifiable Off-the-Shelf (MOTS), or Government Off-the-Shelf (GOTS) reporting and/or electronic data exchange software.

2. PROJECT GOALS

2.1 Goals & Vision

The goal of this project is to expand upon the Department's current capabilities to analyze the extensive amount of data collected by numerous state agencies within Delaware, including individual crash records, roadway and pavement attributes, and traffic data. The enhanced application will continue to be used to query, search, and view summarizations of crash data as well as individual reports in order to assist the Department and other safety stakeholders (e.g., OHS, state and local law enforcement) in making more cost-effective and educated decisions when recommending solutions to a potential or existing roadway safety issue. The system will need to be adaptable to changes in federal safety reporting requirements and state requirements.

Additionally, DelDOT envisions the application to allow for a public-facing platform in an effort to reduce the volume of crash data requests received by the Department by the public and other entities including internal DelDOT staff and engineering consultants.

3. TECHNICAL INFO

3.1 General

- The application should allow for fully customizable levels of access for each user. User permissions should only be granted and/or modified by administrators.
- The internal application should allow for *at least* 20 simultaneous users, and any public-facing platform must allow for an unlimited amount of simultaneous users.
- The application should have the ability to display a platform intended for use by the general public, showing rudimentary information regarding historical crashes
- For on premise solutions, vendor(s) shall be responsible for ensuring that all services, products and deliverables furnished to the State are consistent with practices utilized by, or policies and standards promulgated by, the Department of Technology and Information (DTI) published at https://dti.delaware.gov/information/standards-policies.shtml.
- If any part of the application will be hosted by a vendor and/or in the cloud, the RFP (if issued) will require the selected vendor to sign the Delaware Cloud Services Terms and Conditions Agreement. Terms can be negotiated to be mutually agreeable to both parties. The terms and conditions cover items such as security clearances, data encryption, location of data, and service levels.

3.2 Crash Reporting

The application should:

- Be geospatially based and display crashes as points on a map of Delaware at the coordinates attributed to each crash.
- Present each individual crash report in a printable format consistent with that used by the Delaware Department of Safety and Homeland Security. Each report shall have the capability to mask personally identifiable information.
- Allow for the daily extraction and loading of new and updated reports from the Delaware Criminal Justice Information System (DelJIS) database (ECRASH), where the original

crash data is housed. Crash data is made available via a web service maintained by DelJIS. The current system runs a nightly script against this web service to extract the data and load it into an Oracle database table. In addition, historic crash data collected prior to the implementation of ECRASH should be loaded into the new system.

- Communicate with DelDOT's roadway inventory system and Gateway application in order to retrieve the most current milepoints, maintenance road numbers, road names, traffic count data, and all other roadway attributes on a regular basis.
- Must be able to consume geospatial data through the use of web mapping services. All current services are OGC (Open Geospatial Consortium) compliant.

3.3 Crash Analysis

The application should:

- Allow for the search and/or query of all attributes of a crash (e.g., data from the crash, person, and vehicle levels), either by drawing buffers around roadways or intersections or by building queries comprised of user-selected crash attributes. Results of those operations must be visualized and interactive on the base map. Spatial queries must be generated based on the coordinates associated with the crash and not the assigned milepoint along a roadway. However, queries may be performed using both milepoints and by selecting areas or buffers on a map.
- Have the ability to create summaries of elements of crashes as a result of a geospatial or attribute-based search and/or query. Additionally, individual crash reports comprising the study must be able to be retrieved in one comprehensive digital file and in multiple file formats (shapefile, csv, pdf, KMZ, etc.).
- Have the ability to return recommended safety countermeasures based on crash patterns as well as the presence or absence of a treatment. The individual countermeasures and methodologies/calculations to determine their usage must be customizable (Crash Modification Factors, etc.)
- Have the ability to incorporate dynamic layers on the base map from numerous sources of data, where applicable, including locations of guardrail, roadway lighting, traffic signals, implemented safety countermeasures, previous safety program study locations, etc.
- Have the ability to populate new data fields from the raw crash data using pre-defined algorithms to cross-reference the three levels of data in a crash (i.e., crash, person, vehicle) to identify Emphasis Areas or crash types to support Delaware's *Strategic Highway Safety Plan* and/or other initiatives, plans, or goals identified by DelDOT.
- Perform network screening tasks, with the ability to scan the entirety of the state-maintained roadway system to select and visualize high crash locations based on pre-determined criteria (e.g., Critical Ratio methodologies, high crash frequency intersections, etc.) as well as produce ranking and prioritization lists, both in graphical and tabular formats. This includes incorporating several methodologies consistent with Delaware's Highway Safety Improvement Program as well as other algorithms as needed.

  - Results from the scan may include recommended safety countermeasures, a map of hot-spot locations including both intersections and roadway segments and their relation to historic safety program study locations, before and after studies, etc.
- Present the data sets on the base map in a format that allows the user to digitally print the map showing any study results in its entirety or within sections as needed, both in graphic and tabular formats. The mapping should provide a means of visually displaying multiple crashes that are located at the same coordinate.

4. INFORMATION REQUESTED

4.1 Vendor's Offerings

Explain your company's role in this field including software design experience, software sales, implementation experience, etc. Describe how your company's products/services add value to this project.

4.2 Organizational Structure

Provide a description of your company including the organizational structure, number of years providing similar services, number of employees and physical location(s). Identify key staff with their relevant experience, location, etc. Include information for any sub-contractors you are likely to use for this project.

4.3 Vendor System Implementations

Provide the following information for each of your recent crash reporting and analysis projects;

4.3.1. Client

- Name of jurisdictions and/or client organizations for which the crash reporting and analysis application was implemented.
- Name and contact information for at least three (3) client references knowledgeable about the project.

4.3.2. Timeline

- Using information regarding clients shown above, please provide the timeline for project implementation by major phases such as requirements, design, development, implementation and maintenance.
- Please provide any lessons learned for project implementation by major phases such as requirements, design, development, implementation and maintenance
- Detail which of the following functional systems/modules were implemented:
  - Data Security
  - Mapping
  - Queries and data searches
  - Interfaces to internal and external entities
  - Reporting

4.3.3. Technology Used

- Identify the technical platform (.NET, Java, Oracle Spatial, etc.) and list the technologies that will be used by servers, workstations, middleware, database, etc. or other software that will be part of the system (such as MS Word, Excel, Adobe PDF).
- Technology should adhere to defined State Enterprise Standards and Policies which can be found online https://dti.delaware.gov/information/standards-policies.shtml.

4.3.4. Hardware Requirements

- Identify the hardware infrastructure required to support the system.
- Hardware requirements are subject to review by DTI; the State's primary existing data center primarily consists of virtual servers. Cloud hosting may also be considered as an option.

4.3.5. Contingency/Operational Continuity Plans

- Identify and provide examples of how the application and its supporting architecture will be developed to allow for the continued availability and functionality of the application to the Department in the event the vendor's company is sold, merged, or ceases to exist.

4.4 Functionality of the Potential DelDOT System

The vendor should demonstrate how each of the following will be met by the system

4.4.1 Functionality

- The vendor should identify all functionality available through the vendor's system. Based on the information provided, the vendor should identify any functionality or services that are not available through the vendor's system.
- Describe how your system supports a geospatially-based online application
- OR describe the geo-location features that are supported/not supported by the system.

4.4.2 Interfaces

- The vendor should identify any interfaces that would be available through the system.
- Briefly describe any web services interfaces that the Offeror has implemented
- Describe how the system interfaces with external systems

4.5 Cost for the Proposed System

Based on the information provided, estimate a non-binding cost required to complete the crash data reporting and analysis application project. Please show estimated costs for the following tasks, if available:

- Software licensing cost (if applicable)
- Project management cost
- Third party software cost (if applicable)
- Product development and implementation
- Annual maintenance and support

4.5.1 Alternative Pricing Models

- Identify the vendor's preferred pricing model as well as any alternative pricing models for the crash data reporting and analysis application project that would be acceptable to the vendor. Some of these alternative pricing models may include: per module / product, long-term payment options, milestone based, etc.

4.5.2 High Cost Mitigation

- DelDOT is also interested in identifying high risk and cost factors. Information regarding avoiding high cost specification or requirements is encouraged. Proponents may identify from past experience, certain factors that adversely affect cost.

4.5.3 Recommendations

- DelDOT welcomes any recommendations, suggestions, challenges, limitations, or improvements regarding this potential project, whether they relate to direct cost, system performance, platform (cloud vs client hosted) or any other aspect of this project.